Safety Data Sheet
acc. to OSHA HCS

Printing date 07/17/2026 Reviewed on 07/17/2026

1 Identification

· **Product identifier**

· **Trade name:** GRF FLEX FOAM 200 GUN AE 750ML*12 L1
· **Application of the substance / the mixture** Adhesive

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Bison International
Dr.A.F.Philipsstraat 9
NL-4462 EW Goes
PO Box 160
NL-4460 AD Goes
tel. +31 88 3235700
fax. +31 88 3235800
e mail: sds@boltonadhesives.com

· **Information department:** PSRA
· **Emergency telephone number:**
Bison and Griffon products: +31 88 3235700. Operating hours mo-fr 08:00h-17:00h (CET)
UHU products: + 49 (0) 30/19240 (Notruf). Operating hours mo-fr 08:00h-17:00h (CET)

For detailed information contact the national Poison Centre @
https://poisoncentres.echa.europa.eu/appointed-bodies

2 Hazard(s) identification

· **Classification of the substance or mixture**

Aerosols 1	H222 Extremely flammable aerosol.
Acute Toxicity - Inhalation 4	H332 Harmful if inhaled.
Skin Irritation 2	H315 Causes skin irritation.
Eye Irritation 2A	H319 Causes serious eye irritation.
Sensitization - Respiratory 1	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Sensitization - Skin 1	H317 May cause an allergic skin reaction.
Carcinogenicity 2	H351 Suspected of causing cancer.
Specific Target Organ Toxicity - Single Exposure 3	H335 May cause respiratory irritation.
Specific Target Organ Toxicity - Repeated Exposure 2	H373 May cause damage to organs through prolonged or repeated exposure.

· **Label elements**
· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
4,4'-methylenediphenyl diisocyanate

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· **Hazard statements**
H222 Extremely flammable aerosol.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
· **Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Pressurized container: Do not pierce or burn, even after use.
P260 Do not breathe spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
P501 Dispose of contents/container in accordance with national regulations.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**



Health = 3
Fire = 4
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *2
Fire = 4
Reactivity = 3

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable
· **vPvB:** Not applicable

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3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Adhesive

· **Dangerous components:**		
101-68-8	4,4'-methylenediphenyl diisocyanate	50-100%
1244733-77-4	reaction product of phosphoryl trichloride and 2-methyloxirane	10-25%
74-98-6	propane	2.5-10%
75-28-5	isobutane	2.5-10%
115-10-6	dimethyl ether	2.5-10%

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4 First-aid measures

· **Description of first aid measures**
· **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:** If symptoms persist consult doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

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6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
101-68-8	4,4'-methylenediphenyl diisocyanate	0.15 mg/m3
74-98-6	propane	5500 ppm

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75-28-5	isobutane	5500 ppm
115-10-6	dimethyl ether	3,000 ppm
· **PAC-2:**		
101-68-8	4,4'-methylenediphenyl diisocyanate	5.0 mg/m3
74-98-6	propane	17000 ppm
75-28-5	isobutane	17000 ppm
115-10-6	dimethyl ether	3800* ppm
· **PAC-3:**		
101-68-8	4,4'-methylenediphenyl diisocyanate	55 mg/m3
74-98-6	propane	33000 ppm
75-28-5	isobutane	53000 ppm
115-10-6	dimethyl ether	7200* ppm

7 Handling and storage

· **Handling:**
· **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
· **Information about protection against explosions and fires:**
Do not spray on a naked flame or any incandescent material.
Keep ignition sources away - Do not smoke.
Keep respiratory protective device available.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Observe official regulations on storing packagings with pressurized containers.
· **Information about storage in one common storage facility:** Not required
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Storage class:** 2 B
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

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101-68-8 4,4'-methylenediphenyl diisocyanate	
PEL	Ceiling limit value: 0.2 mg/m³, 0.02 ppm
REL	Long-term value: 0.05 mg/m³, 0.005 ppm Ceiling limit value: 0.2* mg/m³, 0.02* ppm *10-min
TLV	Long-term value: 0.051 mg/m³, 0.005 ppm
74-98-6 propane	
PEL	Long-term value: 1800 mg/m³, 1000 ppm
REL	Long-term value: 1800 mg/m³, 1000 ppm
TLV	see Appendix F Minimal oxygen content (D, EX)
75-28-5 isobutane	
TLV	Short-term value: 2370 mg/m³, 1000 ppm (EX)
115-10-6 dimethyl ether	
WEEL	Long-term value: 1000 ppm

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
· **Breathing equipment:** Not required
· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
Recommended thickness of the material: > 0,12 mm
Nitrile rubber, NBR
· **Penetration time of glove material**
For the mixture of chemicals mentioned below the penetration time has to be at least 10 minutes (Permeation according to EN 374 Part 3: Level 1).

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· **Eye protection:**
Safety glasses



Tightly sealed goggles

· **Body protection:** Use protective suit.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Color:	According to product specification
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined
· **pH-value:**	Not determined
· **Change in condition**	
Melting point/Melting range:	Undetermined
Boiling point/Boiling range:	-44.5 °C (-48.1 °F)
· **Flash point:**	-97 °C (-142.6 °F)
· **Flammability:**	Not applicable
· **Auto igniting:**	235 °C (455 °F)
· **Decomposition temperature:**	Not determined
· **Ignition temperature:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Explosion limits:**	
Lower:	Not determined
Upper:	Not determined
· **Vapor pressure at 20 °C (68 °F):**	<0.1 hPa
· **Density at 20 °C (68 °F):**	1.163 g/cm³ (9.705 lbs/gal)
· **Relative density**	Not determined
· **Vapor density**	Not determined
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined

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· **Viscosity:**	
Dynamic:	Not determined
Kinematic:	Not determined
· **Solvent content:**	
Organic solvents:	13.6 %
VOC content:	20.40 %
Solids content:	61.6 %
· **Other information**	All relevant physical data were determined for the mixture. All non-determined data are not measurable or not relevant for the characterization of the mixture.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Possibility of hazardous reactions**
Reacts with alcohols.
Reacts with water.
Reacts with alkali, amines and strong acids.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** Danger of toxic pyrolysis products.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
101-68-8 4,4'-methylenediphenyl diisocyanate		
Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>9400 mg/kg (rabbit)
115-10-6 dimethyl ether		
Inhalative	LC50/4 h	308 mg/l (rat)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:

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Harmful
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
101-68-8	4,4'-methylenediphenyl diisocyanate	3

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

· **Germ cell mutagenicity** Not applicable

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12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable
· **vPvB:** Not applicable
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.

· **Uncleaned packagings:**
· **Recommendation:**
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

· **UN-Number**
· **DOT, ADR/ADN, IMDG, IATA** UN1950

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· **UN proper shipping name**	
· **DOT**	Aerosols, flammable
· **ADR/ADN**	1950 AEROSOLS
· **IMDG**	AEROSOLS
· **IATA**	AEROSOLS, flammable
· **Transport hazard class(es)**	
· **DOT**	
· **Class**	2 Gases
· **Label**	2.1
· **ADR/ADN**	
· **Class**	2 5F Gases
· **Label**	2.1
· **IMDG, IATA**	
· **Class**	2 Gases
· **Label**	2.1
· **Packing group**	
· **DOT, ADR/ADN, IMDG, IATA**	not regulated
· **Environmental hazards:**	Not applicable
· **Special precautions for user**	Warning: Gases
· **Hazard identification number (Kemler code):**	-
· **EMS Number:**	F-D,S-U
· **Stowage Code**	SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.
· **Segregation Code**	SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of

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·	class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: 75 kg On cargo aircraft only: 150 kg
· **ADR/ADN**	
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **UN "Model Regulation":**	UN 1950 AEROSOLS, 2.1

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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

101-68-8	4,4'-methylenediphenyl diisocyanate

· **TSCA (Toxic Substances Control Act):**

101-68-8	4,4'-methylenediphenyl diisocyanate	ACTIVE
74-98-6	propane	ACTIVE
75-28-5	isobutane	ACTIVE
115-10-6	dimethyl ether	ACTIVE

· **Hazardous Air Pollutants**

101-68-8	4,4'-methylenediphenyl diisocyanate

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

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· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

101-68-8	4,4'-methylenediphenyl diisocyanate	D, CBD

· **TLV (Threshold Limit Value)**
None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
4,4'-methylenediphenyl diisocyanate

· **Hazard statements**
H222 Extremely flammable aerosol.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Pressurized container: Do not pierce or burn, even after use.
P260 Do not breathe spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
P501 Dispose of contents/container in accordance with national regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** PSRA
· **Contact:** PSRA
· **Date of preparation / last revision** 07/17/2026 / 13
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Aerosols 1: Aerosols – Category 1
Acute Toxicity - Inhalation 4: Acute toxicity – Category 4
Skin Irritation 2: Skin corrosion/irritation – Category 2
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
Sensitization - Respiratory 1: Respiratory sensitisation – Category 1
Sensitization - Skin 1: Skin sensitisation – Category 1
Carcinogenicity 2: Carcinogenicity – Category 2
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2
· *** Data compared to the previous version altered.**

US